REMARKS

Claims 1-30 are pending. Claims 25-30 have been withdrawn pursuant to a restriction requirement. Claims 1-24 and stand variously rejected under 35 U.S.C. §§ 112, 102 and 103.

By amendment herein, claim 1 has been amended to incorporate the limitations of claim 2 and to indicate that the composition consists of a vaso-occlusive member and a bioactive material selected from the specific group. Accordingly, claims 2, 12, 13 and 20 have been canceled and the dependencies and antecedent bases in claims 3, 11 and 17 have been corrected. In addition, claim 31 has been amended to specify that the vaso-occlusive member is a coil as described throughout the specification as filed, for example on page 4, line 19. Claim 31 has also been amended to incorporate the limitations of claim 33 (which has been canceled). Claim 34 has been amended to correct antecedent basis.

No new matter has been added as a result of these amendments and entry thereof is respectfully requested. Applicant reserves the right to file a continuation or divisional application directed to the subject matter of the original claims during the pendency of this application.

In view of the foregoing amendments and following remarks, Applicant requests reconsideration of the application and withdrawal of the rejections.

Restriction Requirement

The Restriction Requirement has been made FINAL. Applicant expressly reserves her right under 35 USC §121 to file one or more divisional applications directed to the nonelected subject matter during the pendency of this application.

Abstract

Applicant acknowledges with appreciation acceptance of the amended Abstract.

Objections

Claims 1, 2 and 33 are objected to and correction has been required. In particular, claims 2 and 33 are objected to for alleged misnumbering and claim 1 is objected to for reciting a material rather than an "additional" material. In view of the foregoing amendments, including cancellation of claims 2 and 33 and the amendments to claim 1, the objections have been obviated.

Rejections Under 35 U.S.C. § 112, First Paragraph, Written Description

Claims 1-24, 34 and 35 stand rejected under 35 U.S.C. 112, first paragraph as allegedly not described by the specification in such a way as to convey that the inventor was in possession of the claimed subject matter at the time of filing. (Office Action, paragraphs 7 and 8). In particular, the terms "liquid fibrin" (in claim 1) and "biodegradable" (in claims 34 and 35) are allegedly not described in the specification. (Office Action, paragraphs 7 and 8).

Because the specification as filed indicates that Applicant was in possession of liquid fibrin and biodegradable materials, Applicant traverses the rejection and supporting remarks.

Determining whether the written description requirement is satisfied is a question of fact and the burden is on the Examiner to provide evidence as to why a skilled artisan would not have recognized that the applicant was in possession of claimed invention at the time of filing. *Vas-Cath, Inc. v. Mahurkar*, 19 USPQ2d 1111 (Fed. Cir. 1991); *In re Wertheim,* 191 USPQ 90 (CCPA 1976). It is not necessary that the application describe the claimed invention *in ipsis verba.* Rather, all that is required is that the specification reasonably convey possession of the invention. *See, e.g., In re Lukach,* 169 USPQ 795, 796 (CCPA 1971). Finally, determining whether the written description requirement is satisfied requires reading the disclosure in light of the knowledge possessed by the skilled artisan at the time of filing, for example as established by reference to patents and publications available to the public prior to the filing date of the application. *See, e.g., In re Lange,* 209 USPQ 288 (CCPA 1981).

The specification as filed fully satisfies the written description requirements. With regard to the term liquid fibrin, Applicant directs the Examiner's attention to the paragraph beginning on line 13 of page 3 where Applicant cites various references describing liquid embolics such as fibrin and in which the fibrin is liquid. Moreover, the existence and use of liquid fibrin (sometimes referred to as fibrinogen) in tissue sealants was well known to those working in this field at the time of filing. In view of these facts and the failure of the Office to provide evidence as to why the skilled artisan would not have understood that Applicant was in possession of a composition including liquid fibrin, withdrawal of this rejection is respectfully requested. Nonetheless, to expedite prosecution, the term "liquid" has been removed by amendment herein.

Turning to the rejection of the term "biodegradable," Applicants note that biodegradable vaso-occlusive members and materials were well-known at the time of filing. (See, also, WO 02/027445, incorporated by reference into the pending application on page 3). Should the Examiner maintain that the term represents new matter, Applicant notes that the proscription

against the introduction of new matter in a patent application (35 U.S.C. 132 and 251) serves to prevent an applicant from adding information that goes beyond the subject matter originally filed. See, *e.g., In re Rasmussen*, 650 F.2d 1212, 1214, 211 USPQ 323, 326 (CCPA 1981) and MPEP § 2163.06. In the pending case, the term "biodegradable" does not in any way go beyond the subject matter originally filed. Given both the references cited in the specification as filed and state of the art at the time of filing, Applicant submits that the written description requirement has been fully satisfied and respectfully request withdrawal of the rejections.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 31-36 stand rejected under 35 U.S.C. 112, second paragraph as allegedly vague and indefinite in failing to include a transition term. Applicant apologizes for any confusion caused by this typographical error and have included the term "comprising" by amendment herein, thereby obviating this rejection.

Rejections Under 35 U.S.C. § 102

Examined claims 1 through 8 and 11 through 24 and stand variously rejected as allegedly anticipated by a variety of references.

Before addressing each reference in turn, Applicant reminds the Examiner that, in order to be an anticipatory reference, the single reference cited by the Office must disclose each and every element of the claims. *Hybritech v. Monoclonal Antibodies,* 231 USPQ 81 (Fed. Cir. 1986). Moreover, the single source must disclose all of the claimed elements arranged as in the claims. *See, e.g., Richardson v. Suzuki Motor Co.,* 9 USPQ2d 1913 (Fed. Cir. 1989). Simply put, the law requires identity as between the prior art disclosure and the invention. *See, e.g., Kalman v. Kimberly-Clark Corp.* 218 USPQ 781 (Fed. Cir. 1983), *cert. denied,* 484 US 1007 (1988). With this legal framework in mind, Applicant addresses how each reference cited by the Office fails to anticipate any of the pending claims.

Rejections Based on Eder

Claims 1-4, 11-14, 18-21 and 24 are rejected under § 102(b) as allegedly obvious over U.S. Patent No. 5,980,550 (hereinafter "Eder"). Eder is cited for disclosing a vaso-occlusive coil, a thrombus-stabilizing molecule and a bioactive material in the form of cytokine VEGF. (Office Action, paragraph 12). In addition, Eder is cited for disclosing embodiments in which

one or both of the thrombus-stabilizing molecule and bioactive material are permanently bonded to the coil. (Office Action, paragraph 12).

Applicant traverses the rejection and supporting remarks.

Eder fails to anticipate any of the currently pending claims. In particular, Eder describes and demonstrates vaso-occlusive devices that necessarily include three components: a vaso-occlusive device, an inner coating and a water-soluble outer coating. It is axiomatic that claims including fewer elements than contained in the reference are not anticipated by that reference. *See, e.g., Kalman v. Kimberly-Clark Corp.* 218 USPQ 781 (Fed. Cir. 1983), *cert. denied*, 484 US 1007 (1988). Here, the present invention does not include a water-soluble outer coating on the vaso-occlusive device and, accordingly, Eder does not anticipate pending claims 1-4, 11-14, 18-21 and 24.

Rejections Based on Callister

Claims 1, 5, 6, 16, 19 and 22 are alleged to be anticipated under 102(a) by U.S. Patent No. 6,096,052 (hereinafter "Callister"). In support of these rejection, Callister is alleged to disclose a vaso-occlusive member and an additional material of copper. (See, Office Action, paragraph 13). Further, Callister is alleged to describe vaso-occlusive members for use in the reproductive tract and, additionally, in the vasculature. (Office Action, paragraph 22).

The pending claims are directed to vaso-occlusive compositions consisting of a vaso-occlusive member and one or more additional specified bioactive material. Like Eder, Callister requires an additional element (*e.g.*, a mesh in Callister's case) that is excluded from the pending claims. Therefore, this reference does not anticipate pending claims 1, 5, 6, 16, 19 and 22 and withdrawal of this rejection is in order.

Rejections Based on Ji '022

Claims 1 and 16 stand rejected as allegedly anticipated by U.S. Patent No. 5,894,022 (hereinafter "Ji '022"). Ji is cited for disclosing "a matrix base (column 2, lines 38-42) that cross-links fibrin (col. 11, lines 65-67) to form a microscopic mesh (column 2, lines 53-56)." (See, Office Action, paragraph 14).

Pending claims 1 and 16 are directed to vaso-occlusive compositions that include, in certain embodiments, fibrin. For the reasons previously made of record, the claimed compositions are distinct from cross-linked fibrin mesh of Ji because they do not include a vaso-

occlusive composition in combination with fibrin. Rather, the reference teaches a cross-linked fibrin mesh that is "an essentially sponge-like structure having a semisolid/semi-liquid or spongy texture." (See, Ji, col. 2, lines 41-42). Further, contrary to the Examiner's assertion, it is irrelevant that Ji '022's mesh like structures include some liquid, particularly liquid oil. (Office Action, paragraph 23). What is relevant is whether or not Ji '022 describes fibrin in combination with a vaso-occlusive member as claimed. Ji '022 provides no such description. Rather, the fibrin disclosed in Ji is cross-linked prior to administrations. (See, *e.g.*, column 11, line 4 to column 12, line 16). Accordingly, claims 1 and 16 are not anticipated by Ji and withdrawal of this rejection is respectfully requested.

Rejections Based on Schwartz

Claims 1, 7, 8, 11, 17, 19 and 23 stand rejected as allegedly anticipated by U.S. Patent No. 5,800,507 (hereinafter "Schwartz"). In support of this rejection, the Examiner states:

> Schwartz [Schwartz '507] clearly discloses that the stent may be used for many different applications including treating occlusions or aneurysms (see, Column 4, line 64 to Column 5, line 5). (Office Action, paragraph 24).

Applicant reminds the Office that a reference must be used for what it teaches as a whole. *See, e.g., In re Wesslau* 47 USPQ 391 (CCPA 1965) holding that "it is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." Thus, a reference must be taken for all that it teaches or suggests. *See, e.g., Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve,* 230 USPQ 416, 420 (Fed. Cir. 1986). Further, functional limitations in the claims must be evaluated and considered, just as any other claim limitation, for what is fairly conveyed to the skilled artisan in context. (See, *e.g.*, MPEP 2173.05(g) Functional Limitations, Eighth Edition).

Here, when viewed as a whole, it is clear the Schwartz in no way teaches or suggests compositions that occlude the vasculature, as claimed by Applicant. Schwartz is entirely directed to the use of stents to prevent restenosis. (See, *e.g.*, Abstract and attached Dictionary definitions of "stent" and "restenosis" also indicating that the function of a stent is to prevent occlusion). Furthermore, the passage in Schwartz cited by the Examiner relates to ensuring the stent attaches to the vasculature wall in the appropriate location to prevent occlusion of the primary vessel. (See, Office Action, paragraph 15, citing column 4, lines 64-67 of Schwartz).

Indeed, when properly read in context, Schwartz does not describe or suggest vaso-occlusive compositions as claimed but, instead, relates entirely to devices that function to prevent occlusion of a vessel. Simply put, there is no description, teaching or suggestion in this reference of vaso-occlusive compositions as specifically recited in claims 1, 7, 8, 11, 17, 19 and 23. Accordingly, withdrawal of this rejection is in order.

Rejections Based on Ji '546

Claims 31-36 stand rejected as allegedly anticipated by U.S. Patent No. 5,888,546 (hereinafter "Ji '546"). Ji '546 is cited for disclosing "a vaso-occlusive composition comprising a vaso-occlusive member and a particulate liquid embolic material (see column 2 lines 30-37, column 3 lines 61-column 4 line 18)." (See, Office Action, paragraph 16).

Pending claims 31-36 are directed to vaso-occlusive compositions comprising a vaso-occlusive coil, a particulate liquid embolic material and an additional bioactive material selected from the group consisting of at least one cytokine; extracellular matrix material; DNA; RNA; functional fragments of DNA or RNA, and combinations thereof. In stark contrast, Ji '546 is directed entirely to compositions that include a matrix base in combination with a liquid oil. (See, claim 1 of Ji). There is no teaching or suggestion in Ji '546 regarding vaso-occlusive coils, alone or in combination with particulate liquid embolic materials. Thus, this reference fails entirely to anticipate the subject matter of claims 31-36 and, accordingly, withdrawal of this rejection is requested.

Rejection Under 35 U.S.C. § 103

The Examiner has also maintained the rejected claims 9 and 10 as allegedly obvious over Schwartz. In addition, claim 15 is rejected as allegedly obvious over Schwartz in view of U.S. Patent No. 5,891,192 (hereinafter "Murayama"). In support of these rejections the Examiner states, in part: it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace Factor XIII (column 3 lines 47-48) with PAI-1 or alpha2-antiplasmin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. (Office Action, paragraph 18).

Schwartz discloses the claimed invention except for the vaso-occlusive member being subjected to ion implantation. Murayama teaches that ion implantation alters the surface

properties of a metal implant ... It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the metal stent of Schwartz to include the application of ion implantation in order to change the surface properties...(Office Action, paragraph 19).

Further, the Office has dismissed Applicant's previous argument that claims 9, 10, and 15 are not obvious over Schwartz (alone or in combination with other references) because there is no motivation in Schwartz to use stents as vaso-occlusive devices. (See, Response filed June, 2002).

Since Schwartz's disclosure is limited to stents, this reference fails to teach or suggest critical limitations of pending claims 9, 10 and 15.

In support of her position, the Examiner has pointed to Schwartz's definition of the term "stent" and alleged that this definition includes use of stents to occlude vessels such as aneurysms. (See, Office Action, paragraph 26 citing column 4, line 67 to column 5, line 4 of Schwartz). However, when this passage is properly viewed in context of Schwartz as a whole, it is clear that the term "stent" is actually used in its conventional sense to refer to a device that stops occlusion of a vessel, for example by sealing off an aneurysm so that flow in the main vessel is maintained. (See, also Abstract of Schwartz). In other words, Schwartz's devices invariably serve to keep a vessel open. In contrast, the vaso-occlusive devices of claims 9, 10 and 15 invariably occlude the target vessel into which they are placed. To somehow twist Schwartz's definition of the term "stents" to include occlusive devices is contrary to both the conventional use of the term stent (see, attached dictionary definition) and, moreover, contrary to Schwartz's own teachings that the disclosed stents prevent occlusion (restenosis).

As noted above, it is improper take a single sentence fragment from Schwartz out of context to conclude that it would have been obvious to arrive at the vaso-occlusive composition of claims 9, 10 and 15. When taken as a whole, Schwartz is directed to completely different devices with a completely different function than claimed by Applicant. In short, the skilled artisan would not (and indeed could not) have been motivated from Schwartz, alone or in combination with Murayama, to arrive at the invention of claims 9, 10 and 15, because the proposed modification would destroy the intended function of Schwartz's stents.

In sum, there is no motivation within Schwartz to arrive at the invention of claims 9, 10 and 15 and the suggested modification would not result in the precisely claimed invention. Accordingly, Applicant requests that this rejection be withdrawn.

Information Disclosure Statement

Applicant wishes to bring to the attention of the Patent Office the references listed on the enclosed form PTO-1449 and request that they be considered by the Examiner. Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. Enclosed is a copy of the International Search Report and copies of each of the references cited herein. This Information Disclosure Statement is being filed under 37 C.F.R. §1.97(e)(1), therefore no fee is due with this communication.

CONCLUSION

In view of the foregoing remarks, Applicant believes the claims are in condition for allowance and requests early notification to that effect. If the Examiner believes there are any outstanding issues, she is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

Date: 21st Nov 02

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please amend claims 1, 3, 11, 17, 21, 31, and 34 as follows:

1. (Twice Amended) A vaso-occlusive composition [comprising] consisting of a vaso-occlusive member and a bioactive material selected from the group consisting of [liquid] fibrin; polyethylene glycol derivatives; thrombin-coated gelatin granules; balloons coated with iron microspheres; trace metals; thrombus-stabilizing molecules; at least one cytokine; extracellular matrix material; DNA; RNA; functional fragments of DNA, RNA, cytokines or extracelluar matrix materials; and combinations thereof.

3. (Amended) The composition of claim [2] 1, wherein the bioactive material is at least one cytokine.

11. (Amended) The composition of claim 1, wherein the bioactive material is adsorbed to the vaso-occlusive member.

17. (Amended) The composition of claim 11, wherein the vaso-occlusive member [further comprises] includes a tie-layer between the vaso-occlusive member and the bioactive material.

21. (Twice Amended) The method of claim [20] 19, wherein the cytokine is selected from the group consisting of PDGF, βFGF, VEGF and TGF-beta.

31. (Amended) A vaso-occlusive composition comprising a vaso-occlusive [member] coil, [and] a [particulate] liquid embolic material and an additional bioactive material selected from the group consisting of at least one cytokine; extracellular matrix material; DNA; RNA; functional fragments of DNA, RNA, cytokines or extracellular matrix material; and combinations thereof.

34. (Amended) The vaso-occlusive composition of claim 31, wherein the vaso-occlusive coil [member] is biodegradable.

CURRENTLY PENDING CLAIMS

1. (Twice Amended) A vaso-occlusive composition consisting of a vaso-occlusive member and a bioactive material selected from the group consisting of fibrin; polyethylene glycol derivatives; thrombin-coated gelatin granules; balloons coated with iron microspheres; trace metals; thrombus-stabilizing molecules; at least one cytokine; extracellular matrix material; DNA; RNA; functional fragments of DNA, RNA, cytokines or extracelluar matrix materials; and combinations thereof.

2. Canceled.

3. (Amended) The composition of claim 1, wherein the bioactive material is at least one cytokine.

4. The composition of claim 3, wherein the cytokine is selected from the group consisting of PDGF, βFGF, VEGF and TGF-beta.

5. The composition of claim 1, wherein the material comprises a trace metal.

6. The composition of claim 5, wherein the trace metal comprises copper.

7. The composition of claim 1, wherein the material comprises a thrombus-stabilizing molecule.

8. The composition of claim 7, wherein the thrombus-stabilizing molecule is Factor XIII or functional fragments thereof.

9. The composition of claim 7, wherein the thrombus-stabilizing molecule is plasminogen activator inhibitor-1 (PAI-1) or functional fragments thereof.

10. The composition of claim 7, wherein the thrombus-stabilizing molecule is α_2-antiplasmin or functional fragments thereof.

11. (Amended) The composition of claim 1, wherein the bioactive material is adsorbed to the vaso-occlusive member.

12. Canceled.

13. Canceled.

14. The composition of claim 1, wherein the vaso-occlusive member is plasma treated.

15. The composition of claim 1, wherein the vaso-occlusive member is subjected to ion implantation.

16. The composition of claim 1, wherein the vaso-occlusive member is microtextured.

17. (Amended) The composition of claim 11, wherein the vaso-occlusive member includes a tie-layer between the vaso-occlusive member and the bioactive material.

18. The composition of claim 1, wherein the vaso-occlusive member is selected from the group consisting of one or more vaso-occlusive coils, one or more filters, one or more retention devices and combinations thereof.

19. A method of occluding a vessel comprising administering to a subject in need thereof a vaso-occlusive composition according to claim 1.

20. Canceled.

21. (Twice Amended) The method of claim 19, wherein the cytokine is selected from the group consisting of PDGF, βFGF, VEGF and TGF-beta.

22. The method of claim 19, wherein the trace metal is copper.

23. The method of claim 19, wherein the thrombus-stabilizing molecule is selected from the group consisting of Factor XIII, α_2-antiplasmin, plasminogen activator inhibitor-1 (PAI-1), combinations thereof and functional fragments thereof.

24. The method of claim 19, wherein the vessel is an aneurysm.

25 to 30. Withdrawn.

31. (Amended) A vaso-occlusive composition comprising a vaso-occlusive coil, a liquid embolic material and an additional bioactive material selected from the group consisting of at least one cytokine; extracellular matrix material; DNA; RNA; functional fragments of DNA, RNA, cytokines or extracellular matrix material; and combinations thereof

32. The vaso-occlusive composition of claim 31, wherein the particular liquid embolic material is selected from the group consisting of microspheres, granules and beads.

33. Canceled.

34. (Amended) The vaso-occlusive composition of claim 31, wherein the vaso-occlusive coil is biodegradable.

35. The vaso-occlusive composition of claim 31, wherein the particulate material is biodegradable.

36. A method of occluding a vessel comprising administering to a subject in need thereof a vaso-occlusive composition according to claim 31.

Edition
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for transmitting occlusal stresses parallel to its long axis and holding the clasp in its predetermined position; a component of removable partial dentures. Called also *occlusal stop.*

precision r., a prefabricated, rigid, metallic extension of a fixed or removable partial denture, consisting of two closely fitted interlocking parts, the insert of which fits into a box-type rest or keyway (female) portion of the attachment in the cast restoration of a tooth.

recessed r., a rigid extension of a partial denture which contacts a definite seat prepared in the surface of a tooth.

semiprecision r., a denture rest, sometimes supplemented by a spring-loaded plunger or clip, which fits into a seat in an abutment tooth that has been specially deepened to provide added retention. See also under *attachment.*

suprarenal r., adrenal r.

surface r., a rigid extension of a partial denture which contacts the unaltered extracoronal surface of a tooth.

Walthard's cell r's, see under *islet.*

rest·bite (rest'bīt) the relation of the teeth when the jaw is at rest.

re·ste·no·sis (re″stə-no'sis) recurrent stenosis, especially of a valve of the heart, after surgical correction of the primary condition.

false r., stenosis recurring after failure to divide either commissure of the cardiac valve beyond the area of incision of the papillary muscles.

true r., restenosis occurring after complete opening of one or both of the commissures of the cardiac valve involved.

res·ti·form (res'tī-form) [L. *restis* rope + *forma* form] shaped like a rope.

res·ti·tu·tion (res″tī-too'shən) [L. *restitutio*] 1. an active process of restoration. 2. the spontaneous realignment of the fetal head with the fetal body, after delivery of the head.

res·to·ra·tion (res″tə-ra'shən) [L. *restaurare* to review, rebuild] 1. the act of renewing, rebuilding, or reconstructing. 2. the return to a previous state or condition, as of health. 3. the process of replacing by artificial means a missing, damaged, or diseased tooth or teeth or any part thereof. See also *prosthetic r.* and *restorative dentistry,* under *dentistry.* 4. the act of re-forming the contours of parts of teeth destroyed by lesions or injury, thereby restoring their functional properties.

buccal r., the replacement, usually with silver alloy, gold, or plastic, of the buccal portion of a posterior tooth lost through caries or injury.

cusp r., restoration of the summit of a cusp or the incisal edge of a tooth, done for functional or cosmetic reasons.

facial r., the replacement, usually with silver alloy, gold, or acrylic resin, of the facial portion of a posterior tooth lost through caries or injury.

prosthetic r., 1. the replacement of a lost or absent body part with an artificial structure, such as the use of an inlay, crown, bridge, or partial or complete denture, or other appliance to replace lost tooth structure, teeth, or oral tissue or structure. 2. any appliance, such as an inlay, crown, bridge, or partial or complete denture, used to replace lost tooth structure, teeth, or oral tissue or structure.

Res·tor·il (res'tə-ril″) trademark for a preparation of temazepam.

re·straint (re-strānt') the forcible confinement of a violently psychotic or irrational person.

re·stric·tion (re-strik'shən) 1. anything that limits; also, a limitation. 2. see *restriction endonuclease,* under *endonuclease.*

intrauterine growth r., see under *retardation.*

MHC r., the phenomenon of certain cell-cell interactions in the immune response occurring only between MHC haploidentical cells. Helper T cells are activated by antigen only when the antigen is "seen" in conjunction with self class II MHC antigens (Ia antigens in mice, HLA-DR antigens in humans) as is the case when antigen is presented by macrophages. Cytotoxic T cells are activated by and kill only cells displaying foreign antigens (e.g., viral antigens or tumor antigens) plus self class I MHC antigens (K or D antigens in mice, HLA-A, -B, or -C antigens in humans).

re·sub·limed (re″səb-līmd') subjected to repeated processes of sublimation.

re·sul·tant (re-zul'tənt) any of the products of a chemical reaction.

re·su·pi·na·tion (re″soo-pī-na'shən) [L. *resupinare* to turn on the back] 1. the act of turning upon the back or dorsum. 2. the position of one lying upon the back.

re·sus·ci·ta·tion (re-sus″ī-ta'shən) [L. *resuscitare* to revive] the restoration to life or consciousness of one apparently dead; it includes such measures as artificial respiration and cardiac massage.

cardiopulmonary r. (CPR), the artificial substitution of heart and lung action as indicated for cardiac arrest or apparent sudden death resulting from electric shock, drowning, res and other causes. The two major components of C ventilation and closed chest cardiac massage; see I

re·sus·ci·ta·tor (re-sus'ī-ta″tor) an apparatus for in tion in cases of asphyxia.

cardiopulmonary r., an apparatus that simultaneo patient's breathing and applies external cardiac ma

re·su·ture (re-soo'chər) secondary suture.

re·tain·er (re-ta'nər) 1. a device for retaining or kee in position. 2. the part of a denture that unites the with the suspended portion of the bridge, such as crown, or complete crown. 3. an orthodontic device in position the teeth and jaws. 4. any form of clasp, other device used for the fixation or stabilization appliance. 5. the portion of a fixed prosthesis attac the abutment teeth.

continuous bar r., continuous clasp.

direct r., a clasp or attachment applied to an abu which a removable partial denture is maintained in

Hawley r., an orthodontic appliance consisting of latal wire and an acrylic biteplate resting against th stabilize teeth after their movement or as a basis ment by providing anchorage for other attachme *Hawley appliance.*

indirect r., a part of a removable partial denture direct retainers in preventing displacement of dista ture bases by functioning through lever action on t of the fulcrum line.

matrix r., a mechanical device designed to engag matrix band or strip and to tighten the matrix arou

space r., an orthodontic appliance that retains the s premature loss of a tooth or the space to be filled tooth. See also under *maintainer* and *regainer.*

re·tar·date (re-tahr'dāt) a mentally retarded pers

re·tar·da·tion (re″tahr-da'shən) [L. *retardare* to pede] delay; hindrance; delayed development.

intrauterine growth r. (IUGR), birth weight below t tile for gestational age for infants born in a given p fied as *symmetric* (both weight and length below n *metric* (weight below normal, length normal *intrauterine growth restriction.*

mental r. [DSM-III-R], a mental disorder characte cantly subaverage general intellectual functioning impairments in adaptive behavior and manifested opmental period; classified as *mild* (IQ 50–70)—ca and communication skills during the preschool pe mal sensorimotor impairment, can by their late demic skills up to the sixth grade level, and usuall and vocational skills adequate for minimal self-su (IQ 35–50)—can talk or learn to communicate but awareness and only fair motor development; are gress to the second grade level in academic skill from vocational training, and can take care of th supervision; *severe* (IQ 20–35)—have poor mot and minimal speech in the preschool period, may their late teens and can be trained in elementary hy as adults may learn to perform simple work und sion; *profound* (IQ below 20)—have limited senso ment, may achieve very limited self-care, and requi tured environment and constant supervision. *B* retardation (IQ 70–85), now called borderline intel ing, is used to refer to very mild forms with only sli in adaptive behavior. Called also *mental deficien ity.*

psychomotor r., generalized slowing of mental an ity; seen in depression.

retch·ing (rech'ing) a strong involuntary effort to

re·te (rē'te) pl. *re'tia* [L. "net"] a net or meshwork cal nomenclature as a general term to designate cially of arteries or veins.

acromial r., r. acromia'le [NA], a network formed t the acromial branch of the thoracoacromial artery process.

r. arterio'sum [NA], an anastomotic network forme before they become arterioles or capillaries.

articular r., r. vasculosum articulare.

articular cubital r., articular r. of elbow, r. articul

articular r. of knee, r. articulare genus.

r. articula're cu'biti [NA], articular rete of elbow work formed on the posterior aspect of the elbow ulnar recurrent, inferior and superior ulnar collat osseous recurrent arteries.

r. articula're ge'nus [NA], articular rete of knee: a rial rete on the capsule of the knee joint, supplying

steno·ceph·a·ly (sten″o-sef′ə-le) [*steno-* + Gr. *kephalē* head] excessive narrowness of the head.

steno·cho·ria (sten″o-kor′e-ə) [*steno-* + Gr. *chōros* space] stenosis, or narrowing.

steno·co·ri·a·sis (sten″o-kə-ri′ə-sis) [*steno-* + Gr. *korē* pupil] contraction of the pupil of the eye.

steno·cro·ta·phia (sten″o-kro-ta′fe-ə) [*steno-* + Gr. *krotaphos* temple + *-ia*] narrowness of the temporal region.

steno·crot·a·phy (sten″o-krot′ə-fe) stenocrotaphia.

steno·pe·ic (sten″o-pe′ik) [*sten-* + Gr. *opē* opening] having a narrow slit or opening, as stenopeic spectacles.

ste·no·sal (stə-no′səl) stenotic.

ste·nosed (stə-nōzd′) narrowed or constricted.

ste·no·sis (stə-no′sis) [Gr. *stenōsis*] narrowing or stricture of a duct or canal.

aortic s. (AS), narrowing of the orifice of the aortic valve or of the supravalvular or subvalvular regions; see also *supravalvular aortic s.* and *subvalvular aortic s.*

buttonhole mitral s., mitral stenosis in which adhesion and shortening of the mitral cusps produces a diaphragmatic slit resembling a buttonhole; called also *fishmouth mitral s.*

caroticovertebral s., atherosclerotic stenosis of the cervical portions of the vertebral arteries, resulting in cerebral ischemia.

cicatricial s., stenosis caused by the contraction of a cicatrix.

fishmouth mitral s., buttonhole mitral s.

granulation s., stenosis or narrowing caused by the deposit of granulations or by their contraction.

hypertrophic pyloric s., narrowing of the pyloric canal by muscular hypertrophy and mucosal edema, occurring chiefly in infants, and marked by nausea, vomiting, epigastric pain, anorexia, weight loss, dehydration, and hypochloremic alkalosis; in infants there are a palpable pyloric mass and visible peristalsis.

idiopathic hypertrophic subaortic s., a form of hypertrophic cardiomyopathy, in which the left ventricle is hypertrophied (commonly with disproportionate involvement of the interventricular septum) and the cavity is small; it is marked by obstruction to left ventricular outflow. Called also *muscular subaortic s.*

infantile hypertrophic gastric s., congenital hypertrophy and hyperplasia of the musculature of the pyloric sphincter, occurring within the first few weeks of life and leading to partial obstruction of the gastric outlet.

infundibular s., stenosis below the pulmonary valve, within the infundibulum (conus arteriosus) of the right ventricle of the heart.

mitral s., a narrowing of the left atrioventricular orifice (mitral orifice).

muscular subaortic s., idiopathic hypertrophic subaortic s.

postdiphtheritic s., stenosis of the larynx or trachea following diphtheria.

pulmonary s. (PS), narrowing of the opening between the pulmonary artery and the right ventricle, usually at the level of the valve leaflets.

pyloric s., obstruction of the pyloric orifice of the stomach; it may be congenital as in hypertrophic pyloric stenosis, or acquired due to peptic ulceration or prepyloric carcinoma.

spinal s., narrowing of the vertebral canal, nerve root canals, or intervertebral foramina of the lumbar spine caused by encroachment of bone upon the space; symptoms are caused by compression of the cauda equina and include pain, paresthesias, and neurogenic claudication. The condition may be either congenital or due to spinal degeneration. See also *spinal compression* under *compression.*

subaortic s., aortic stenosis due to an obstructive lesion in the left ventricle below the aortic valve, causing a pressure gradient across the obstruction within the ventricle.

subpulmonic infundibular s., infundibular s.

subvalvular aortic s., subaortic s.

supravalvular aortic s., a rare form of aortic stenosis occurring above the aortic valve, usually caused by a completely circumferential fibrous ring of constricting tissue at the level of the sinus of Valsalva. See also *Williams syndrome,* under *syndrome.*

tricuspid s. (TS), narrowing or stricture of the tricuspid orifice of the heart.

valvular s., stenosis affecting any of the valves of the heart; see *aortic s., mitral s., pulmonary s.,* and *tricuspid s.*

steno·ther·mal (sten″o-ther′məl) stenothermic.

steno·ther·mic (sten″o-ther′mik) [*steno-* + Gr. *therme* heat] capable of development only within a narrow range of temperature, e.g., a bacterial culture.

steno·tho·rax (sten″o-thor′aks) [*steno-* + Gr. *thōrax* chest] abnormal narrowness of the chest.

ste·not·ic (stə-not′ik) [Gr. *stenotēs* narrowness] pertaining to or characterized by stenosis; abnormally narrowed.

Sten·sen's canal, duct, etc. (sten′sənz) [Niels *Stensen* (Nicolaus Steno), Danish physician, anatomist in Italy, 1638–1686] see under *experiment* and *plexus,* and see *canalis incisivum, ductus parotideus,* and *foramen incisivum.*

stent (stent) [from Charles R. *Stent,* English dentist, died 1901] 1. a mold for keeping a skin graft in place, made of Stent's mass or some acrylic or dental compound. 2. a device or mold for keeping a skin graft in place. 3. a slender rod- or thread-like device used to provide support for tubular structures that are being anastomosed or to induce or maintain patency within these tubular structures.

step (step) one of a series of footrests on different levels, or a structure resembling it.

Rönne's nasal s., a steplike defect in the nasal side of the visual field; seen in glaucoma.

ste·pha·ni·al (stə-fa′ne-əl) pertaining to the stephanion.

ste·pha·ni·on (stə-fa′ne-ən) [Gr. *stephanos* crown + *-on* neuter ending] the point on the side of the cranium at which the coronal suture meets the superior temporal line.

Steph·a·no·fi·lar·ia (stef″ə-no-fi-lar′e-ə) a genus of filarial nematodes.

S. stile′si, a species causing dermatitis in cattle in the United States.

steph·a·no·fi·la·ri·a·sis (stef″ə-no-fil″ə-ri′ə-sis) a chronic skin disease of cattle in certain parts of the United States, due to infestation with the nematode *Stephanofilaria stilesi;* called also *verminous dermatitis.*

Steph·a·nu·rus (stef″ə-nu′rəs) a genus of nematode parasites of the family Syngamidae.

S. denta′tus, a species parasitic in the urinary tract and occasionally in other tissues of swine.

ste·ra·di·an (stə-ra′de-ən) [Gr. *ster-* solid + *radian*] the unit of measurement of solid angles, equivalent to the angle subtended at the center of a sphere by an area on its surface equal to the square of its radius. A full sphere subtends 4π steradians. Abbreviated sr.

Ster·ane (ster′ān) trademark for preparations of prednisolone.

Ster·a·pred (ster′ə-pred″) trademark for preparations of prednisone.

sterc(o)- [L. *stercus* dung] a combining form denoting relationship to feces.

ster·co·bi·lin (stər″ko-bi′lin) [*sterco-* + *bilin*] a bile pigment derivative, formed by air oxidation of stercobilinogen, which is in turn derived by reduction of bilirubin; it is a brown-orange-red pigmentation contributing to the color of feces and urine.

ster·co·bi·lin·o·gen (stər″ko-bi-lin′o-jən) a bilirubin metabolite and precursor of stercobilin, formed by reduction of urobilinogen.

ster·co·lith (stər′ko-lith) [*sterco-* + Gr. *lithos* stone] a fecal concretion.

ster·co·ra·ceous (stər″kə-ra′shəs) [L. *stercoraceus*] consisting of or containing feces; fecal.

ster·co·ral (stər′kə-rəl) stercoraceous.

ster·co·rar·ia (stər″kə-rar′e-ə) in some systems of classification, a group or section comprising those trypanosomes in which the developmental cycle is completed in the hindgut (posterior station) of the vector and transmission is by fecal contamination during biting of the host by the vector. The group includes the subgenera *Megatrypanum, Herpetosoma,* and *Schizotrypanum.* Cf. *salivaria.*

ster·co·rar·i·an (stər″kə-rar′e-ən) pertaining to or caused by trypanosomes of the stercoraria group or section.

ster·co·ro·lith (stər′kə-ro-lith) stercolith.

ster·co·ro·ma (stər″kə-ro′mə) a large accumulation of fecal matter forming a tumor-like mass in the rectum; called also *coproma, fecaloma,* and *scatoma.*

ster·co·rous (stər′kə-rəs) [L. *stercorosus*] of the nature of excrement.

Ster·cu·lia (stər-ku′le-ə) a genus of trees and shrubs, including many species, mostly tropical; some have edible seeds and others are medicinal, while still others afford a gummy exudation with cathartic and adhesive properties (see *karaya gum,* under *gum*). The hairs of *S. apetala* of Panama may be very irritating.

ster·cus (stər′kəs) pl. *ster′cora* [L.] dung, or feces.

stere (stēr) [Gr. *stereos* solid] a cubic meter.

stereo- [Gr. *stereos* solid] a combining form meaning solid, having three dimensions, or firmly established.